

## **Research Notes**

Program Steering Committee (PSC): Environmental

May 2014

Title: FHWA Traffic Noise Model: Version 3.0 Software and Training: Pooled Fund TPF-5(158)

Task Number: 1578

Start Date: 7/1/2007

Completion Date: 6/30/2015

Product Category: New or improved decision support tool, simulation, model, or algorithm (software).

Task Manager:

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### **TITLE:**

FHWA Traffic Noise Model Version 3.0

The software for Version 3.0 of the FHWA Traffic Noise Model is being updated so that it does not become obsolete.

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### **WHAT IS THE NEED?**

The FHWA Traffic Noise Model is the required model for use on federal-aid highway projects. The original version of the model was released in 1998. The model has been periodically updated as knowledge about highway noise has expanded and computer systems have evolved. This revision is necessary to ensure that new information on highway noise generation and reduction are included in the model, and that the model can run on currently used operating systems. The updated version of the model will also allow for more efficient future upgrades and maintenance.

### **WHAT ARE WE DOING?**

Caltrans is a partner in this Transportation Pooled Fund project which has FHWA as the lead agency [TPF-5(158)]. The work will include but not be limited to the following: making the graphical user interface more user friendly; including the reflection of sound off of barriers in the model; improving how highways with multiple lanes are modeled; improving the contour functionality of the model; and correcting the known software bugs.

### **WHAT IS OUR GOAL?**

The goal of this project is to produce an improved FHWA traffic noise model that can be used by federal, state, and local entities to determine the noise impacts of transportation

projects and help to develop mitigation measures for those projects. The end product is the model that can be implemented by transportation agencies.

#### **WHAT IS THE BENEFIT?**

The benefits of having an improved FHWA Traffic Noise Model include being able to better forecast the noise impacts of highway projects and developing the proper cost-effective mitigation measures to meet our obligations under state and federal law and build a sustainable efficient transportation system to support California's economy and livability.

#### **WHAT IS THE PROGRESS TO DATE?**

Several of the modules for the update of the model have been completed and the project is about 80% complete. There are some major challenges in finding open source software for use in the model and in calculation errors in the coding. FHWA as the lead agency in this project is continuing to research the areas where there are challenges. They released a broad agency announcement identifying approaches that they are taking and the timeframe has been extended. The project is now scheduled to be complete by January 30 2015.